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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,948

12/29/2004

Hidekazu Kimura

DP-941 US

5030

21254 7590 10/22/2008  
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EXAMINER

CHU, HELEN OK

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,948	<b>Applicant(s)</b> KIMURA ET AL.	
	<b>Examiner</b> Helen O. Chu	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/27/2008, 3/29/2005, 12/29/2004</u> .                        | 6) <input type="checkbox"/> Other: _____                          |



**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I claims 1-22 in the reply filed on September 3, 2009 is acknowledged.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 12/29/2004, 3/29/2005, 6/27/2008 was filed. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Drawings***

4. The drawings were received on 12/29/2004. These drawings are acceptable.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-5, 12-16, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yi et al. (US Publication 2001/0004501 A1) as evidence by Yamamoto et al. (EP 1265303 A1).

Regarding claims 1 and 12, the Yi et al. reference discloses the claimed invention above and further a fuel cell having a solid electrolyte sandwiched between a fuel electrode with fuel reactant gas entering and an oxygen electrode with oxidant entering (P3 and P4). The oxidant electrode includes a first layer with hydrophobic properties (106) and a second layer includes hydrophilic properties (102) which is arranged from the catalyst to the outside of the cell (Fig. 5).

Regarding claims 2-5, and 13-16 the Yi et al. reference discloses that the first and second layers are made of porous carbon layers wherein the first layer is made of Toray carbon paper (67) and includes Teflon (Applicants fluoro-resin water repellent)

Regarding claims 9, 10, 20 and 21, the Yi et al. discloses a water transport plate (86) to be made of porous graphite. As evidence by Yamamoto et al. (P8) graphite are inherently hydrophobic

### ***Claim Rejections - 35 USC § 102/103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 6-8, 17-18 are rejected under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as obvious over Yi et al. (US Publication 2001/0004501 A1).

It is noted that claims 6-8, 17-18 are product-by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F. 2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since fuel cell electrode is similar to that of the Applicant's, Applicant's process is not given patentable weight in this claim.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable by Yi et al. (US Publication 2001/0004501 A1) as evidence by Yamamoto et al. (EP

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1265303 A1) in view of Cipollini (US Patent 6,379,827 B1) in further view of Andelman (US Publication 2004/0012913).

The Yi et al. discloses the claimed invention above and further incorporated herein. The Yi et al. discloses the plate (86) to be made of porous graphite (current collectors), however, it is unknown how the porous graphite plate is fixed and assembled onto the other porous graphite plate (89) and the hydrophilic layer (102) to make an assembled fuel cell. The Cipollini reference discloses an identical invention as disclosed by Yamamoto et al., the Cipollini reference further discloses the two conductive porous plates (inherently current collectors: Fig. 2) are bonded together (4:15-20) but does not disclose how the two plates are bonded. The Andelman reference discloses fuel cell electrodes (P2) are known in the art to be bonded by PTFE, the binder material can be formed by coating the current collector (10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the binder of PTFE adhesion of current collectors to the fuel cell as disclosed by Andelman into the fuel cell electrode as taught by both Yamamoto et al. and Cipollini in order facilitate current flow and ensuring a tight and effective fuel cell. The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. **KSR v. Teleflex**

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC



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/PATRICK RYAN/

Supervisory Patent Examiner, Art Unit 1795